

GRAY (L.C.)

PALMUS.

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PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE NEW YORK POLYCLINIC.



FROM
THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES,
MAY, 1895.

PALMUS.¹

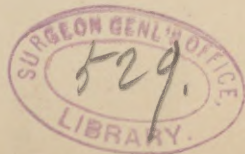
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It has been my fortune in the last few years to see a number of cases of muscular movements to which the French authors have given the name of *Tic Convulsif*. They were first described in 1885 by Gilles de La Tourette, under the caption of "A Nervous Affection Characterized by Motor Inco-ordination, Accompanied by Echolalia and Coprolalia."² The details of this description are as follows: Motor inco-ordination is the first symptom, beginning gradually without apparently influencing the general health. The face or the upper extremities are first affected, in the latter usually one-sidedly. It is first noticed that the fingers are alternately extended and flexed, or that the shoulders are raised. At about the same time the muscles of the face become implicated, most often with incessant winking, or by one of the buccal commissures being actively drawn upward and outward, or by a contraction of the masseters, causing a grating of the teeth, or by a projection of the tongue, at the same time that this organ may sometimes be lacerated by sudden activity of the masseters. The muscles of the neck taking part in the movements, the head is alternately flexed and extended, and the sternomastoids incline it to one or the other side. The lower extremities soon share in the general disturbance, but the inco-ordination in them is somewhat different in that the movements are not limited to isolated muscular groups, as is the case in the parts that we have described, but extend over the entirety of the muscles of one or the other member, and sometimes over both. The patient stamps his foot, stoops or erects himself, or the movement may consist of a veritable jump. All these movements are very sudden and very rapid, and each first set of movements is quickly followed by further ones. During one of these series of movements the patient suddenly, at the time of a movement, gives vent to an inarticulate cry like "hem," "ah," which sound may be repeated several times. At times this cry may be articulate, consisting of a word which varies from patient to patient, and which has certain of the characteristics of an echo; hence the name *echolalia*. The *coprolalia* was regarded by La Tourette as pathognomonic, and consists of profane

¹ Read before the New York Neurological Society, March 5, 1895.

² ἡχώ echo, λαλῶ to speak, and κοηρος obscenity, and κισρος indecent.



oaths or obscene epithets. This author regarded the affection as an eminently chronic one, and also as invariably hereditary. The French authors had their attention directed to the subject by the descriptions of two American authors—those of Beard upon “The Jumpers of Maine,” published in 1880, and that of Hammond upon “Miryachit,” a similar disease of the far Orient. Beard found that the jumpers of Maine did unhesitatingly whatever they were told to do. Thus, one who was sitting in a chair was told to throw a knife that he had in his hand, and he obeyed so quickly that the weapon stuck in a house opposite; at the same time he repeated the command given him, with a cry of alarm not unlike that of hysteria or epilepsy. When he was suddenly clapped upon the shoulder he threw away his pipe, which he had been filling with tobacco. The first parts of Virgil’s *Æneid* and Homer’s *Iliad* were recited to one of these illiterate jumpers, and he repeated the words as they came to him in a sharp voice, at the same time jumping or throwing whatever he had in his hand, or raising his shoulder, or making some other violent motion. It is related by O’Brien, an Irishman serving on an English naval vessel, that an elderly and respectable Malay woman, with whom he was conversing in an entirely unsuspecting manner, suddenly began to undress herself, and showed a most ominous and determined intention of stripping herself completely, and all because a by-standing friend had suddenly taken off his coat; at the same time she manifested the most violent anger at what she deemed this outrage to her sex, calling the astonished friend an abandoned hog, and very properly begging O’Brien to kill him. O’Brien, furthermore, tells of a cook who was carrying his child in his arms over a bridge on a river, while at the same time a sailor carried a log of wood in like manner, and how the sailor threw his log of wood on an awning, amusing himself by causing it to roll over the cloth, and finally letting it fall to the bridge, when the cook repeated every motion with his little boy, and killed him on the spot. This *Miryachit* was observed in Malaysia, Bengal, among the Sikhs and the Nubians, and in Siberia, whilst Beard has observed it in Michigan as well as in Maine.

The French authors would have us consider all this complex of symptoms—namely, the sudden and rapid muscular contractions, the jumping, the tendency to imitation, the coprolalia, and the echolalia—as constituting one and the same affection, and to it they have given the name of *tic convulsif*. Inasmuch as I have found, for reasons that I shall endeavor to make plain in this paper, that the main symptoms of the affection are much more frequent than has hitherto been supposed, I have ventured to coin for it a new name. *Latah* and *Miryachit* are Malaysian and Russian names respectively, whilst *tic convulsif* either will be confounded in most Anglo-Saxon minds with *tic douloureux*, or else it conveys no meaning at all, because the word *tic*, which has a time-honored

meaning in the French language, is unknown to ours. Moreover, the affection possesses more analogy with chorea than with any other affection, and I have, therefore, thought that it would be more proper to have it become known by a name derived from the Greek. With this end in view I have found *ὁ παλμὸς*, which is a good old Greek word used by Aristotle to describe palpitation or twitching of the heart, and I have simply Latinized it into *Palmus*, which medical men will have no occasion to confound with the Greek words *ὁ πᾶλμος*, "the king," the more especially as the accent in the latter is on the first syllable, whilst in my Latinized word *Palmus* it should be upon the last. The adjective is palmodic, from the Greek *παλμωδης*. It is far from being proved, however, as La Tourette supposed, that these five symptoms—*palmus*, or convulsive tic, tendency to imitation, jumping, coprolalia, and echolalia—are necessarily found together. In a very interesting monograph, published in 1893 by Noir, upon these tics, he has made, by observations among what the French call the degenerate, the imbeciles and idiots, a most valuable addition to our knowledge, at the same time that the existing literature has been carefully gleaned; and in this pamphlet it is demonstrated that all these symptoms may be observed in some patients, whilst in others the *palmus* alone is seen; in others, again, the echolalia or the coprolalia; whilst I have never observed the jumping or the coprolalia in any of my cases. Noir divides *palmus* into the following types:

1. The simple co-ordinated tics, most often rhythmical;
2. The slight co-ordinated non-rhythmical tics;
3. The co-ordinated tics of the blind;
4. The grand co-ordinated tics, of which there are two varieties, the simple and the complex.

Under the head of simple co-ordinated tics are placed the balancing of the body, the rotation of the head, and the butting or striking, for which Roubiniwitch has proposed the name of *krouomania*. These manifest themselves most frequently when the patient is seated, and consist of a violent antero-posterior movement of the trunk; or the head alone is moved by long, rhythmical, regular movements, or is rotated from right to left with great rapidity, or is violently butted against the nearest object. The small, co-ordinated, non-rhythmical tics are of the greatest diversity. Often beginning as a habit, they become constant and rapid repetitions of ordinary movements, and with idiots these movements are imitations, or have their origin in the necessity for motion. They are frequently united with the convulsive tics, with the balancing of the body, or the rotation or the butting. Noir has called special attention to a *palmus* which he has observed most frequently in blind idiots, consisting of rapid movements of one finger before the eyes. His explanation is that the blindness generally

not being so complete as to prevent the perception by the retina of some luminous rays, the blind idiot causes alternate movements of light and shade in this manner, and voluntarily causes this sensation—a rather far-fetched explanation, I am afraid, which needs explaining. The grand co-ordinated tics were seen by Noir only in vigorous idiots, and are either simple or complex. They consist of all sorts of fantastic movements; indeed, they are really attitudes, and I do not think they should be classed with palmus or tics at all. Anyone who is familiar with idiots knows the meaningless gestures which are common to certain of them, ordinary voluntary movements made seemingly automatic by the limitation of the intelligence. In some of these cases there has been described a tendency to persistent and fixed ideas or even a slight delusion with fear of places (*agorophobia* or folly of doubt), and, as we have already stated, Noir has studied them among the idiots of the Bicêtre.

My own observations have taught me that this disease, studied by the European authors entirely among the hopeless inmates of idiot asylums and in chronic cases, is by no means infrequent in relatively subacute and slighter types in the population at large. I have seen a number of cases among the patients who have come to my office. These are divisible into the following types:

1. Facial palmus;
2. General palmus;
3. Acute palmus;
4. General palmus with pseudo-melancholia.

Facial palmus constitutes by all odds the most frequent type. It consists of sudden, instantaneous, shock-like movements of lightning-like rapidity, that go to make up a sudden wink or twitch of one cheek, occasionally of both, or of the brow. This series of movements is generally followed by a second series that, however, is much weaker, and sometimes even by a third. Sometimes the head is retracted or drawn forward, or one shoulder is elevated. In the majority of the cases the winking is bilateral, but the other movements just named are usually unilateral. I am inclined to think that this is a much more common affection than is generally supposed, or even than could be gathered from my own observation, because I have a strong suspicion that most of the cases of so-called chorea that are treated by oculists are really cases of facial palmus. It is undoubtedly true that in a large proportion of these cases errors of refraction will be found, but what the percentage is I cannot say, because all of my cases have not been examined for this defect, and even if they had been they are not sufficient in number to be satisfactory. But whether this error of refraction is one of the attendant symptoms of the disease, or whether it is a mere coincidence, I cannot undertake to say. I have never yet been able to see in four cases any improvement in the disease result from the mere correc-

tion of refraction, although I am inclined to think that in some individuals this correction, together with the use of arsenic, has a beneficial effect. In two cases I have seen a very distinct improvement obtained by the relief of disease of the turbinate bones, but this gain was only temporary in effect. The cases which I have seen of this facial palmus have been of long duration, usually commencing in early childhood and invariably in those whose heredity is neurotic, although not necessarily to a marked degree; in other words, I have seen it occur at the one extreme, as illustrated by a female now under my care who is thirty-one years of age, and whose maternal aunt has been insane, whose sister had a similar trouble, and whose brother had chorea; whilst, on the other hand, I have observed it in several cases of young children, varying from six to ten years of age, in whose family, as would be shown by careful questioning, there had occurred some slight nervous troubles.

The cases of general palmus which I have seen answer very accurately to the description that was given of convulsive tic by La Tourette, except that I have not seen in them any coprolalia, nor the inco-ordination of movement that this author speaks of. They consist of intermittent, sudden, shock-like movements of different muscles of the body. In the face these may be repeated, as in the facial palmus, twice or even three times; but there is not the same tendency to repetition in the other muscles affected. What I suppose would answer to a description of echolalia has also been seen in these cases, although it, I think, is rather sensational and exaggerated to liken it to an echo, for the inarticulate noise is rather a grunting or squeaking sound, very much like that which is heard in many cases of chorea. It has always been accompanied by a sudden movement of the throat, neck, and head muscles, as in a sudden throwing out of a note in singing. It is almost impossible to describe the sound in words; indeed, it has seemed to me more like a sudden spasmodic expiration, such as would be heard if a person were suddenly struck upon the abdomen, than any articulation such as "*hem*" and "*ah*," as La Tourette would have it to be in his cases. The movement in the legs is usually that of a sudden extension, and in the arms the extensors also seem to be mainly affected. In all of these cases that I have seen the intelligence is not only unimpaired, but it seems to be the rule, as is the case in chorea, that the patients are unusually intelligent; thus, one of my patients, a man thirty-six years of age, who has found this malady a great barrier to his success in life, yet learned stenography in three months sufficiently well to take the prize in a competitive examination into which one hundred and fifty individuals had entered; whilst another patient, the young woman thirty-one years of age, of whom I have already spoken, is of an unusual order of mental capacity. This type is also of long duration, commencing in early childhood and running uncured, so far as I can judge from my limited

cases, as far as forty years of age. In one of the cases of this type there were at times exacerbations lasting a week or ten days, in which the patient became exceedingly pale, cold, with slight shivers, and evidencing a condition of widespread motor spasm, in which the fingers would even participate for a few hours, so as to assume the similitude of Raynaud's disease.

I have seen only one case of acute palmus. It was in a boy of six, whose heredity, as far as I could ascertain from the statements of his mother, was not neurotic. He had had trouble some six months before coming to me. He had been labelled with a number of interesting diagnoses, such as chorea, epilepsy, myotonia, hysteria, and neurasthenia. His palmodic movements were very curious. When standing near a table, looking at something, the chin would suddenly come down with a thump that would leave a black-and-blue mark, or his head would be thrown violently to one side, perhaps coming in contact with some adjacent hard object with equal force, or, while standing quietly, his legs would give a sudden twitch, and he would be thrown violently to the ground, and this even happened several times when he was seated on the edge of a stool. The child was under my care for two weeks, and, probably because of an intercurrent attack of diarrhœa, grew steadily worse during that time, in spite of the full doses of arsenic which were administered to him. He was literally covered with bruises from the sudden and violent contacts with articles of furniture, the floor, and the walls. At last, in despair at his condition, I ordered him to be undressed and put to bed, and steadily pushed the Fowler's solution of arsenic until he was taking ten drops three times a day, when to my great surprise he began to improve rapidly, and at the end of six weeks was perfectly well. Keeping him under observation for two weeks longer, I finally sent him to his home in the West, and am informed that he has since remained perfectly well. It has seemed to me that many of the cases recorded as paramyoclonus multiplex have been really acute palmus.

General palmus with pseudo-melancholia. I have seen two cases of this variety. The muscular movements are of the usual sudden, shock-like type, and of the same extent as in what I have ventured to call the general form. With them, however, there is associated a curious pseudo-melancholia, consisting of certain fixed melancholy suspicious delusions, without, however, any of the suicidal tendencies and abnormal sensations up and down the back of the head, neck, or spine, or the sleeplessness, which are characteristic of most cases of true melancholia. In both of my cases the palmus had existed for a long period, the exact limits of which, however, I could not determine, because the patient scouted the idea that he had had any trouble of the kind, but which the testimony of friends and relatives seemed to vouch for. They were both

men, one thirty-six and one thirty-eight years of age. The pseudo-melancholia, however, had only existed in one case for about a year, and in the other for six months. One case passed away from my observation, and I know nothing of its further course. The other case recovered in nine months' treatment, and during the three years that have since elapsed he has been an active business man, although I have not seen him myself during that period, as he took a great dislike to me because I was forced to take strong measures to keep him under treatment, so persistent were his suspicions. One of these cases was mistaken for general paresis with a melancholy onset by a competent neurologist of this city, and he persisted in his diagnosis until the course of events demonstrated his error; indeed, it is not wonderful that this should have been the case, because anyone who is not familiar with this type of disease might readily be thus misled. There was, however, no element of dementia in the case; on the contrary, the man's mind, except so far as his melancholy delusions and suspicions were concerned, was keen and intelligent, as were also his perceptions.

The diagnosis of these cases can readily be made. The only disease with which they are likely to be confounded is chorea, from which they differ radically. In chorea the movements are of two varieties, and both usually involve the fibrillæ of muscles and not muscular groups either acting singly or in co-ordination with other muscular groups. The fibrillary movements of chorea, too, consist either of a sudden contraction quickly beginning and quickly ending, or the contraction in the athetoid form is more gradual. Chorea, moreover, is always generalized, so that the movements are found in the upper and the lower extremities, in the trunk and in the face, and occasionally also in the abdominal and laryngeal muscles. But the movements of facial palmus are always limited to the face; even in general palmus the distinction from chorea is very marked, for in the latter disease the movements are always fibrillary, of the sudden or gradual character that has been described, whereas in the latter they are sudden—shock-like—with much longer intermissions than is the case in chorea.

The prognosis of these cases varies according to the type. I have never yet seen a case of the facial or general variety cured, but I think this statement needs to be taken with some qualification, because in no one of these cases have I ever been able to carry out thoroughly the rigid treatment which is usually so very successful in cases of chorea, namely, prolonged rest, with increasing doses of arsenic. Whether or not it would be of use in the facial variety might be a matter of doubt, but I believe that there is reason to hope for success in a certain proportion of cases of the generalized type. Then, too, if we carefully study our cases of chorea, it will be seen that there are very few of them that are really thoroughly cured, even by any treatment, for the most

that we can hope to do is so to diminish the number and the frequency of the fibrillary movements as to obtain a large degree of improvement; but it has been my custom for years to exhibit so-called cured cases of chorea in which patient watching would demonstrate the existence of a few isolated fibrillary twitches. With the relatively weak movements of chorea this is a sufficiently practical result to obtain, but with the sudden, shock-like movements of palmus this would not answer the expectations of patients. The acute palmus was readily cured, as I have already stated. One case of palmus with pseudo-melancholia was cured, I believe, although, as I have already said, I cannot speak positively about this; and the other case I was not able to treat.

There has been nothing to throw any light upon the pathology of this affection. It is true that Gilbert Caddiot and Roger claimed that they stopped a so-called palmus of the ear in a dog by removing the nucleus of the facial nerve in the pons, having without effect previously destroyed the cortical centre of the facial, the internal capsule, the optic thalami, and the cerebellum. But, whilst this experiment is interesting, any neurological experimenter knows that it is impossible to limit a destroying instrument to such a minute space as would be constituted by the facial nucleus.

I am sorry that I cannot say much about the therapeutics of palmus. Arsenic certainly has a beneficial effect upon it, but this is not of so long duration as the same drug has in chorea. My acute case, however, was cured by the arsenic and the rest. It may, of course, be questioned as to how much was done by the rest and how much by the arsenic; but in regard to this I can only say that even before the case was put to bed the arsenic had effected some amelioration. In the facial and general varieties the arsenic alone will not answer, and in the one case of generalized palmus with pseudo-melancholia I could never perceive that arsenic had any effect whatever. Hyoscyamine and hyoscine have a beneficial effect that has only seemed less than that of arsenic. I gave them in doses of $\frac{1}{100}$ grain three or four times a day. Iron, which is so extremely beneficial in chorea in large doses, in conjunction with increasing quantities of arsenic, has been utterly without effect in this disease, as have also the bromides. Galvanic electricity is of distinct benefit, quite as much so as the arsenic in the cases of facial palmus; but I have not had the opportunity of using it in the other varieties. In facial palmus, also, as I have said, I have seen distinctly beneficial results from the removal of errors of refraction or irritative lesions of the naso-pharynx. My impression is that the treatment of these cases should be as follows: Arsenic should be given in the form of Fowler's solution, at first three drops three times a day, and gradually increased so that in the course of a week or two eight or ten drops three times a day are taken. At the same time galvanism should be applied

carefully to the pes anserinus in facial palmus and to the spinal column in the general form, a current of three to five milliampères being used every day, from three to five minutes at a time. Absolute rest of the patient in bed, for a period of one to two weeks at the outset, should always be used, even in the cases of facial palmus. At the end of this time the patient should be allowed to sit up two or three hours a day, and this period of sitting up should be very gradually increased, so that at the end of three or four weeks more the patient should be out of bed throughout the afternoon hours, but should remain at rest during the morning and evening for a period extending for at least eight to ten weeks from the onset of treatment; and even after this long walks and rides and strenuous occupation should be carefully avoided for several months. All errors of refraction should be corrected and all irritative lesions of the naso-pharynx should be, if possible, removed. In conjunction with these special measures, the patient's general health should be brought to the highest point possible by careful and generous diet and proper tonics.

I am aware that this paper is purely fragmentary. It must necessarily be so, because we are only on the threshold of this subject, and my object has been simply to call the attention of the profession to a disease hitherto little known in this country; although I believe it is quite widespread, so that further observations may bring us accurate knowledge which may even, I am quite prepared to state, materially modify some of my conclusions.

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